How are we connected?

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Here we are in the Florida Keys, a chain of islands extending 110 miles southwest from mainland Florida. Although we treasure separation from Miami's hustle and bustle, we should remember our connections to the mainland. We use such connections when we drink water brought by the aqueduct or travel the 18-Mile Stretch or Card Sound Road. One connection we may overlook supports the marine waters, mangroves, seagrasses, coral reefs and fish that we enjoy. This connection is our unique watershed, the Kissimmee–Okeechobee–Everglades or KOE watershed.

What is a watershed? A watershed is an area of land that drains to a common endpoint.

The KOE watershed appeared 5,000 years ago when sea levels fell. At this time, the Egyptians were building pyramids. The original watershed drained 18,000 square miles of land. We can track connections to the Keys by imagining we are drops of water flowing through a pristine KOE watershed. (This story is adapted from *The Everglades Case Study* created by Dr Tom Marcinkowski and others.)

Our watershed journey starts when we fall as rain on Turkey Lake, just west of Orlando. We drift south through the Kissimmee Chain of Lakes, including Lake Tohopekaliga where we pass trophy bass lurking in the shallows.

Eventually, we leave the last lake in the chain, Lake Kissimmee, and enter the Kissimmee River. Originally, the Kissimmee River meandered south through many long, winding turns.

After a few days, we reach Lake Okeechobee, 730 square miles of shallow, highly productive water that supports fish, birds and other wildlife. If water levels are low, we're stuck here until more rain causes the lake to overflow.

Eventually, we're pushed over the southern bank of Lake Okeechobee, and we pass through acres of custard apple trees growing in thick, mucky soil. In modern times, farmers wanted to use this fertile soil so flow in the KOE watershed was significantly altered by drainage and flood control projects.

In the original KOE watershed, we travel slowly southward and spread out across the vast sawgrass marshes of the "river of grass." We flow past tree islands, cypress domes, fish, alligators, birds and other wildlife. Eventually, we enter the Shark River Slough where the water begins to get salty, mangroves appear and young snook come to escape predators.

Nearing the end of the slough, we feel tides pulsing in Florida Bay. An outgoing tide pulls us into the bay. We pass mangroves, seagrasses, sponges, soft corals and stony corals on our way to the Keys.

At the Keys, we flow between the chain of islands that are not yet connected by Highway 1, pass through the Hawk Channel and encounter the fringing reef that stretches from Key West to Miami. Past the reef, the Florida Current takes us northeast to merge with the Gulf Stream that sweeps us north along the Atlantic coast.

Our journey covered over 300 miles. In general, we drifted slowly because the KOE watershed is very flat. In some areas of the Everglades, we traveled more than 8 football fields (over 800 yards) before we fall the thickness of a penny (0.06 inches). In fact, the duration of the journey is important to the health of the seagrasses, corals and other habitats of Florida Bay and the Florida Keys. These habitats do best in water with low nutrient levels. A slow journey allowed plants in the KOE watershed to remove nutrients before the water reached Florida Bay.

You're probably thinking that our journey doesn't fit what you know about the area between the Orlando and the Keys. Well, you're right. Next time, we'll explore how we've changed the KOE watershed and how restoration in south Florida, including the Comprehensive Everglades Restoration Plan (CERP), is meant to recreate some of the original features.

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